Peer Review of the USFWS Proposed rule to list the West Coast Distinct Population Segment of the fisher as threatened under the Endangered Species Act

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- Overall, I agree that the Service has compiled substantial data to support listing at least some segment of west coast fishers as threatened under the Endangered Species Act.
- Are the findings and conclusions accurate, logical, and supported by the data?
    - Fisher biology, habitat, and distribution - I am not a subject matter expert here but found these sections of the proposed rule and Species Report to be informative, thorough, and based on a sufficient number of historical and contemporary reports.
    - Population size and trend – I found this section of the Species Report to be thoroughly researched and seemingly complete, but also found the large variability in population and/or density estimates to be troublesome (e.g. 0.18 to 52 animals per 100 km^2 for NC-SWO). I don't mention this to suggest that the Service drew speculative or incorrect conclusions about population trends, but rather just to acknowledge the challenges in studying an elusive species. It is indeed difficult to draw conclusions at all given such wildly variable estimates for some population segments within the analysis area.
    - Genetic relationships between populations – while I agree that the west coast fisher population appears to meet the Service's requirement for "discreteness" in identifying it as a DPS, I can't help but wonder if population segments *within* the west coast DPS analysis area (Alternatives 1 and 2) are more appropriate for listing? The draft species report clearly states that: 1) recent genetic evidence (Tucker et al. 2012) suggests a break in the distribution along the length of the Sierra Nevada and that the population was probably not contiguous even prior to European settlement and that 2) the Southern Oregon Cascades and Northern California-Southwestern Oregon Population show no genetic exchange despite their relatively close proximity. Additionally, the introduced populations are obviously more closely associated with their source populations as opposed to native populations. I think that the Service needs to elaborate on the geographic scale of the proposed DPS and make a stronger case for including the entire west coast population into a single DPS. If a more compelling case cannot be made (beyond just stating that the Service was being responsive to the petition for listing), then I would argue that DPS Alternatives 1 or 2 might be more biologically appropriate for listing.
- Stressors:
    - Climate Change – in light of your extensive review of potential climate change impacts on fishers and their habitat in the Species Report, I find it incongruous to state in the proposed rule that "climate change is not viewed as a threat to fisher habitat now or in the future."

This conclusion, in my opinion, is neither logical nor supported by the data presented in the Species Report, which clearly makes the case for numerous areas of concern related to climate change. Regarding climate change, the report unequivocally states that the "ecotypes that support fisher habitat may decrease in area" and "where habitat area decreases the number of fishers that can be supported by the habitat will also decrease." The report goes on the state that "loss of habitat could threaten the viability of native and reintroduced populations, and would reduce the likelihood of reestablishing connectivity between populations." If future stressors such as fire and vegetation management, which are also complex, difficult to predict, and variable in intensity across the analysis range, are going to be considered threats to fisher habitat now or in the future, then climate change should most definitely also be considered a threat.

  - Exposure to toxicants – this is clearly an emerging threat to fishers in at least some parts of the range (particularly California), but it seems a bit speculative to consider it an overall threat to fisher populations, particularly relative to other direct threats (climate effects, disease, predation, vehicle collisions). The scope of the threat is based on numerous assumptions (density of marijuana growing operations, whether each operation uses AR's, etc.) and there are many unknown variables, both regarding health impacts and exposure levels. One study found 4/54 fisher mortalities due to AR exposure; similarly 4/73 fishers in California were killed by vehicle strikes, and 11 fishers have been killed by vehicles on the Olympic Peninsula, but vehicle strikes are not considered an ongoing threat in your analysis.

- Tribal Governments:
  - While you adequately describe the land-holding tribes on Washington's Olympic Peninsula, I think it is important to note that even tribes that don't hold large tracts of land do maintain ceded and traditional use areas across large swaths of land of differing ownership. Tribes do not manage timber harvest on these lands, but do contribute substantially to research and conservation of fish and wildlife. The Elwha, for example, works with surrounding industrial timber companies, Department of Natural Resources, Olympic National Park, United States Geological Survey, and Washington Department and Fish and Wildlife to conduct wildlife research and management projects across the entire north Olympic Peninsula (including fisher monitoring projects off reservation).
  - Note typo on page 127 regarding number of hectares on forested land on the Quinault Reservation.
- Olympic Peninsula information:
  - All information regarding the Peninsula appeared accurate to me.